

ABSTRACT OF THE DISCLOSURE

A demodulator in a receiver has a multiple symbol differential phase detector which calculates phase differences between a received signal and received signals of 1, 2, ..., N (Where N is an integer greater than 2) before so as to output the calculated results as N symbol differential phase detected signals. Further, a soft decision sequence estimating unit in this demodulator estimates a transmitted differential phase sequence according to the 1, 2, ..., N symbol differential phase detected signals using a trellis diagram representing transitions of differential phase states of a transmitted signal and Viterbi algorithm and estimates soft decision demodulated data according to estimated transmitted differential phase sequence and the survival path metrics that transit into each state on the trellis diagram.